

Mr. Daniel O'Connor
Indiana Precision Technology, Inc.
400 West New Road
Greenfield, Indiana 46140

Re: 059-11862
Third Administrative Amendment to
FESOP 059-9160-00013

Dear Mr. O'Connor:

Indiana Precision Technology, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) on May 29, 1998 for an automotive components manufacturing operation. A letter requesting the addition of two (2) new casting machines was received on January 27, 2000. Pursuant to the provisions of 326 IAC 2-8-10 the permit is hereby administratively amended as described in the Technical Support Document (TSD) and as follows:

1. The facilities descriptions in Items (1) and (2) of Section A.2 on Page 5 of the FESOP have been revised as follows to account for the addition of the new casting machines and the increased throughput associated with them:
 - A.2 (1) Eight (8) aluminum furnaces, identified as Unit 1, with a maximum capacity of ~~2,342~~ **3238** pounds of aluminum ingots and flux per hour, using a wet scrubber as control, exhausting to one (1) stack (EF-48);
 - (2) Fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, identified as Unit 2, with a maximum capacity of ~~3,608~~ **4731** pounds of aluminum and sand per hour, using three (3) baghouses as control, exhausting to three (3) stacks (EF-49, EF-101, and EF-107);
2. The facilities descriptions in Section D.1 at the top of Page 27 of the FESOP have been revised consistent with the changes to Section A.2 outlined above (No. 1).
3. The particulate matter emission limitation for the Unit 2 operations in Item (b) of Condition D.1.1 on Page 27 of the FESOP has been revised as follows based on the addition of the new casting machines, increased process throughput, and the discussion of 326 IAC 6-3-2 applicability on Page 5 of the TSD:
 - D.1.1 (b) The particulate matter (PM) emissions from the fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines (Unit 2) shall be limited to ~~9.86~~ **7.30** pounds per hour, and

4. Item (b) of Condition D.1.3 on Page 28 of the FESOP has been changed to account for the new casting machines as follows:

D.1.3 (b) The three (3) baghouses for PM control shall be in operation at all times when the fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines (Unit 2) are in operation.

5. Item (a) of Condition D.1.4 on Page 28 of the FESOP has been changed to account for the new casting machines as follows:

D.1.4 (a) Daily visible emission notations of the eight (8) aluminum furnaces, fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts shall be performed once per operating day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

6. Condition D.1.5 on Page 28 of the FESOP has been changed to account for the new casting machines as follows:

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the three (3) baghouses used in conjunction with the fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, at least once daily when the fourteen (14) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the three (3) baghouses shall be maintained within the range of 2.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM and shall be calibrated at least once every six (6) months.

7. Item (a) of Condition D.1.8 on Page 29 of the FESOP has been changed to account for the new casting machines as follows:

D.1.8 (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the eight (8) aluminum furnaces, fourteen (14) shell core sand molding machines, ~~eighteen (18)~~ **twenty (20)** aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Janusz Johnson, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for extension 2-8325, or dial (317) 232-8325.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments

JKJ

cc: File - Hancock County
U.S. EPA, Region V
Hancock County Health Department
Air Compliance Section Inspector - Warren Greiling
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
OFFICE OF AIR MANAGEMENT**

**Indiana Precision Technology
400 West New Road
Greenfield, Indiana 46140**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 and 326 IAC 2-1-3.2, as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F059-9160-00013	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: May 29, 1998

First Minor Permit Modification 059-10290, issued March 22, 1999
First Administrative Amendment 059-11071, issued July 21, 1999
Second Administrative Amendment 059-11181, issued October 1, 1999

Third Administrative Amendment No.: 059-11862	Pages Affected: 5, 27, 28 and 29
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) and presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary automotive components manufacturing operation.

Responsible Official: Raymond E. Lindsey
Source Address: 400 West New Road, Greenfield, Indiana 46140
Mailing Address: 400 West New Road, Greenfield, Indiana 46140
SIC Code: 3714
County Location: Hancock
County Status: Attainment for all criteria pollutants
Source Status: Federally Enforceable State Operating Permit (FESOP)
Minor Source, under PSD Rules;

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (1) Eight (8) aluminum furnaces, identified as Unit 1, with a maximum capacity of 3,238 pounds of aluminum ingots and flux per hour, using a wet scrubber as control, exhausting to one (1) stack (EF-48);
- (2) Fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, identified as Unit 2, with a maximum capacity of 4,731 pounds of aluminum and sand per hour, using three (3) baghouses as control, exhausting to three (3) stacks (EF-49, EF-101, and EF-107);
- (3) One (1) throttle body shotblast, identified as Unit 3, with maximum capacity of 10,000 pounds of Zinc Shot per year, which exhausts inside the plant;
- (4) Mineral sprits machining and washing operations, identified as Unit 4, using one (1) Durr thermal oxidizer as control;
- (5) Machining operations, identified as Unit 5, using a mist collector as control, exhausting to one (1) stack (EF-44);
- (6) One (1) Electronic Control Unit (ECU) assembly operation, consisting of solder, resin and assembly operations, identified as Unit 6;
- (7) One (1) Electronic Control Unit (ECU) maintenance operation, consisting of cleaning and repairing operations, identified as Unit 7; and
- (8) One (1) maintenance and production cleaning operation, identified as Unit 8.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (1) One (1) 6.0 million British thermal units per hour (mmBtu/hr) natural gas fired boiler;

SECTION D.1

FACILITY OPERATION CONDITIONS

- (1) Eight (8) aluminum furnaces, identified as Unit 1, with a maximum capacity of 3,238 pounds of aluminum ingots and flux per hour, using a wet scrubber as control, exhausting to one (1) stack (EF-48);
- (2) Fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, identified as Unit 2, with a maximum capacity of 4731 pounds of aluminum and sand per hour, using three (3) baghouses as control, exhausting to three (3) stacks (EF-49, EF-101, and EF-107);
- (3) One (1) throttle body shotblast, identified as Unit 3, with maximum capacity of 10,000 pounds of Zinc Shot per year, which exhausts inside the plant;

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2 (Process Operations):

- (a) The particulate matter (PM) emissions from the eight (8) aluminum furnaces (Unit 1) shall be limited to 4.52 pounds per hour.
- (b) The particulate matter (PM) emissions from the fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines (Unit 2) shall be limited to 7.30 pounds per hour, and
- (c) The particulate matter (PM) emissions from the one (1) throttle body shotblast (Unit 3) shall be limited as established in the following equation:

These limits are based on the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Compliance Determination Requirements

D.1.2 Testing Requirements [326 IAC 2-8-5(1)]

Testing of this facility is not required by this permit. However, if testing is required, compliance with the particulate matter limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. This does not preclude testing requirements on this facility under 326 IAC 2-8-4 and 326 IAC 2-8-5.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.3 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2:

- (a) The wet scrubber for PM control shall be in operation at all times when the eight (8) aluminum furnaces (Unit 1) are in operation.
- (b) The three (3) baghouses for PM control shall be in operation at all times when the fourteen (14) shell core sand molding machines, twenty (20) aluminum casting

machines, one (1) die maintenance area and nine (9) core knockout machines (Unit 2) are in operation.

D.1.4 Visible Emissions Notations

- (a) Daily visible emission notations of the eight (8) aluminum furnaces, fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts shall be performed once per operating day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the three (3) baghouses used in conjunction with the fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, at least once daily when the fourteen (14) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the three (3) baghouses shall be maintained within the range of 2.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM and shall be calibrated at least once every six (6) months.

D.1.6 Broken Bag or Failure Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced.
- (b) Based upon the findings of the inspection, any additional response steps will be devised within eight (8) hours of discovery and will include a timetable for completion.

D.1.7 Wet Scrubber Inspections

An inspection shall be performed each calendar quarter of the wet scrubber controlling the eight (8) aluminum furnaces.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the eight (8) aluminum furnaces, fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines stack exhausts.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - (1) Daily records of the following operational parameters during normal operation:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure.
 - (2) Documentation of all response steps implemented, per event.
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
- (c) To document compliance with Condition D.1.7, the Permittee shall maintain records of the results of the inspections required under Condition D.1.7
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**Indiana Department of Environmental Management
Office of Air Management**

**Technical Support Document (TSD) for an Administrative Amendment to a
Federally Enforceable State Operating Permit**

Source Background and Description

Source Name:	Indiana Precision Technology, Inc.
Source Location:	400 West New Road, Greenfield, Indiana 46140
County:	Hancock
SIC Code:	3714
Operation Permit No.:	F059-9160-00013
Operation Permit Issuance Date:	May 29, 1998
Administrative Amendment No.:	059-11862-00013
Permit Reviewer:	Janusz Johnson

The Office of Air Management (OAM) has reviewed an amendment application from Indiana Precision Technology, Inc. relating to the construction and operation of the following new units to be added to the Unit 2 operations:

two (2) aluminum casting machines controlled by the existing Baghouse #1 and exhausting through the existing stack EF-49.

The existing Unit 2 operations, prior to the addition of the new emission units listed above, are as follows:

Fourteen (14) shell core sand molding machines, eighteen (18) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, identified as Unit 2, with a maximum capacity of 4257.9 pounds of aluminum and sand per hour, using three (3) baghouses as control, exhausting to three (3) stacks (EF-49, EF-101, and EF-107);

Note: The description of these facilities in the FESOP currently states a maximum capacity of 3,608 pounds of aluminum and sand per hour. Based on information received during review of this request, the maximum capacity is more accurately defined as 4257.9 pounds of aluminum and sand per hour, as reflected in the description above.

The revised Unit 2 operations description including the proposed new equipment will be as follows:

Fourteen (14) shell core sand molding machines, twenty (20) aluminum casting machines, one (1) die maintenance area and nine (9) core knockout machines, identified as Unit 2, with a maximum capacity of 4731.0 pounds of aluminum and sand per hour, using three (3) baghouses as control, exhausting to three (3) stacks (EF-49, EF-101, and EF-107);

History

The source was issued a Federally Enforceable State Operating Permit (FESOP), F059-9160-00013, on May 29, 1998. Since issuance, the following changes to the FESOP have been approved:

First Minor Permit Modification 059-10290, issued March 22, 1999
First Administrative Amendment 059-11071, issued July 21, 1999
Second Administrative Amendment 059-11181, issued October 1, 1999

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

There are no new stacks associated with the new emission units.

Recommendation

The staff recommends to the Commissioner that the Administrative Amendment be approved. This recommendation is based on the following facts and conditions:

An application for the purposes of this review was received on January 27, 2000.

Emission Calculations

1. Unrestricted Potential to Emit (PTE):

The following calculations determine the unrestricted PTE from the two proposed casting machines and the existing reverberatory furnaces, shell core sand molding and core knockout operations affected by the increased throughput based on 8,760 hours of operation, emissions before controls, and emission factors obtained from Chapter 12.10, Table 12.10-7:

Casting machines

Pouring, Cooling:

The maximum aluminum cast for in the two casting machines combined is 323.8 pounds per hour.

$4.2 \text{ lb PM/ton metal} * 323.8 \text{ lb metal/hr} * 1 \text{ ton metal/2000 lbs} * 8760 \text{ hr/yr} * 1 \text{ ton PM/2000 lbs} = 2.98 \text{ ton PM/ yr}$
 $2.06 \text{ lb PM}_{10}/\text{ton metal} * 323.8 \text{ lb metal/hr} * 1 \text{ ton metal/2000 lbs} * 8760 \text{ hr/yr} * 1 \text{ ton PM}_{10}/2000 \text{ lbs} = 1.46 \text{ ton PM}_{10}/ \text{ yr}$

Existing Operations

Furnace operations:

The maximum capacity of the eight (8) reverberatory furnaces listed in the FESOP is 2,312 pounds per hour. Based on the information submitted by the source, the maximum capacity of the furnaces is actually 3238 pounds per hour. The increase from what was previously permitted is 926 pounds per hour.

$4.3 \text{ lb PM(PM}_{10})/\text{ton metal} * 0.463 \text{ ton Metal/hr} = 1.99 \text{ lbs PM(PM}_{10})/\text{hr}$

Sand Handling:

The increased sand usage associated with the new casting machines is 0.075 ton/hr.

$$3.6 \text{ lb PM(PM10)/ton sand} * 0.075 \text{ ton sand/hr} = 0.27 \text{ lbs PM/hr}$$

Core Making / Baking:

The emission factor for core making/baking is lb PM(PM10)/ton metal. The increased metal throughput associated with the new casting machines is 0.16 ton/hr.

$$1.1 \text{ lb PM(PM10)/ton metal} * 0.16 \text{ ton Metal/hr} = 0.18 \text{ lbs PM/hr}$$

Shakeout:

The increased metal throughput associated with the new casting machines is 0.16 ton/hr.

$$3.2 \text{ lb PM/ton metal} * 0.16 \text{ ton Metal/hr} = 0.51 \text{ lbs PM/hr}$$

$$2.24 \text{ lb PM10/ton metal} * 0.16 \text{ ton Metal/hr} = 0.36 \text{ lbs PM10/hr}$$

Total unrestricted PTE for modification:

Process Step	Unrestricted PTE lb PM/hr	Unrestricted PTE ton PM/yr
Smelting - PM PM10	1.99 1.99	8.72 8.72
Pouring/Cooling - PM PM10	2.98 1.46	13.05 6.39
Sand Handling - PM PM10	0.27 0.27	1.18 1.18
Core Making/Baking - PM PM10	0.18 0.18	0.79 0.79
Shakeout - PM PM10	0.51 0.36	2.23 1.58
Total uncontrolled - PM PM10	3.94 2.27	25.97 18.66

2. Potential Emissions After Controls:

The emissions generated by the proposed equipment will be controlled by a baghouse with a 99% efficiency. The following calculations determine the PTE after controls:

$$\text{Pot. Before Controls (ton PM(PM10)/yr)} * (1 - 0.99) = \text{Pot. After Controls (ton PM(PM10)/yr)}$$

Pot. Before Controls ton PM(PM10)/yr	Pot. After Controls ton PM(PM10)/yr
PM 25.97	PM 0.26
PM10 18.66	PM10 0.19

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Pollutant	Potential To Emit (tons/year)
PM	0.26
PM-10	0.19

Justification for Modification

The Federally Enforceable State Operating Permit (FESOP) is being changed through an Administrative Amendment. This amendment is being performed pursuant to 326 IAC 2-8-10(a)(14) because it is a modification which adds emission units of the same type that are already permitted and that will comply with the same applicable requirements and permit terms and conditions as the existing emission units, and the modification will not result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 326 IAC 2-3.

Limited Potential to Emit

The table below summarizes the source total potential to emit, reflecting all federally enforceable limits and control equipment, of the significant emission units including the existing FESOP and this proposed minor source modification.

	Limited Potential to Emit (tons/year)						
Process/ facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Units 1-8			-	93.7	-	-	24.0
Insignificant Activities	-	-	-	5.3	-	-	-
Total Emissions			-	99.0	-	-	24.0

- The controlled PTE for PM and PM10 reflected in this table is based on the total source particulate matter emissions summary attached as Appendix A of this TSD (1 page).
- The particulate matter emissions from the Unit 1, Unit 2, and Unit 3 operations are also limited in Section D.1 of the FESOP based on the applicability of 326 IAC 6-3-2 (Process Operations).

County Attainment Status

The source is located in Hancock County.

Pollutant	Status
PM-10	attainment or unclassifiable
SO ₂	attainment or unclassifiable
NO ₂	attainment or unclassifiable
Ozone	attainment or unclassifiable
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Hancock County has been designated as attainment or unclassifiable for ozone.
- (b) In addition, Hancock has been designated as attainment or unclassifiable for all other criteria pollutants.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable the proposed equipment.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to the proposed equipment.

State Rule Applicability

326 IAC 6-3-2 (Particulate Matter Emission Limitations):

Pursuant to 326 IAC 6-3-2(c), no person shall operate any process so as to produce, cause, suffer or allow particulate matter to be emitted in excess of the amount shown in the following equation (for process weight rates up to sixty thousand (60,000) pounds per hour):

$$E = 4.10 P^{0.67} \quad \text{where} \quad \begin{array}{ll} E & = \text{rate of emission in pounds per hour and} \\ P & = \text{process weight rate in tons per hour.} \end{array}$$

Because there are several different emission units that make up the Unit 2 operations, a determination of what constitutes a process must be made to determine applicable limits. A process is defined in 326 IAC 1-2-58 as “any action, operation, or treatment and the equipment used in connection therewith, and all methods or forms of manufacturing or processing that may emit air contaminants.” The IDEM, OAM, has historically viewed processes as groups of equipment that are physically connected and perform a similar function. In making a determination, the definition for process weight rate in 326 IAC 1-2-59 was relied upon when more than one interpretation could be made. The last paragraph of this definition states, “when the nature of any process or operation or the design of any is such as to permit more than one interpretation for this definition, the interpretation that results in the minimum value for allowable emission shall apply.” For the Unit 2 operations the determination was made as follows:

- (a) The sand handling, core making/baking, casting, and shakeout steps are considered one process because they operate in sequence, are dependent on each other, and accomplish one goal of producing cast aluminum parts.

Using the equation presented above, the particulate matter limit applicable to the above process is

as follows based on a maximum process throughput of 2.365 tons of sand and metal per hour (revised according to the increased throughput associated with the new casting machines):

$$E = 4.10 * (2.365)^{0.67} = 7.30 \text{ pounds particulate per hour}$$

The uncontrolled PTE from the process is 16.45 pounds PM per hour. Because this level of particulate emissions is estimated to be greater than the limited emissions allowed by 326 IAC 6-3-2, the Permittee is required to operate controls to comply with the rule. The baghouses used to control emissions from this process have an overall control efficiency of 99%; therefore controlled emissions are estimated to be:

$$\text{Controlled PTE} = 16.45 \text{ lb PM/hr} * (1-0.99) = 0.16 \text{ pounds controlled PM per hour}$$

Controlled PM emissions are in compliance with the rule.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The existing compliance monitoring provisions for the Unit 2 operations will be revised to include the two (2) new casting machines.

Conclusion

The operation of the two (2) new casting machines shall be subject to the conditions of the FESOP (059-9160-00013) as revised by the attached **Administrative Amendment No. 059-11862-00013**.

Appendix A: Emission Calculations
Source PM and PM10 PTE Summary

Page 1 of 1, TSD App. A

Company Name: Indiana Precision Technology
Address City IN Zip: Greenfield, Indiana
Amendment No.: 059-11862-00013
FESOP No.: 059-9160-00013
Reviewer: Janusz Johnson
Date: March 16, 2000

	EF (lb/ton)	throughput (ton/hr)	uncontrolled PTE (ton/yr)	controlled [99%] PTE (ton/yr)	
<u>furnaces (Unit 1)</u>					
pm	4.3	1.619	30.49	0.30	
pm10	4.3		30.49	0.30	
<u>pouring, cooling (Unit 2)</u>					
pm	4.2	1.619	29.78	0.30	
pm10	2.06		14.61	0.15	
<u>sand handling (Unit 2)</u>					
pm	3.6	0.7465	11.77	0.12	
pm10	3.6		11.77	0.12	
<u>core making/baking (Unit 2)</u>					
pm	1.1	1.619	7.80	0.08	
pm10	1.1		7.80	0.08	
<u>shakeout (Unit 2)</u>					
pm	3.2	1.619	22.69	0.23	
pm10	2.24		15.88	0.16	
<u>shot blast (Unit 3)</u>					
pm	20.0	5.0	438.00	4.38	
pm10	20.0		438.00	4.38	
<u>misc. insignificant activities *</u>					
pm *	-	-	1.0	1.0	* estimated to be
pm10 *	-	-	1.0	1.0	1 TPY or less
Totals - PM			541.54	6.41	
PM10			519.56	6.19	

Appendix A: Emission Calculations
Source PM and PM10 PTE Summary

Page 1 of 1, TSD App. A

Company Name: Indiana Precision Technology
Address City IN Zip: Greenfield, Indiana
Amendment No.: 059-11862-00013
FESOP No.: 059-9160-00013
Reviewer: Janusz Johnson
Date: March 16, 2000

	EF (lb/ton)	throughput (ton/hr)	uncontrolled PTE (ton/yr)	controlled [99%] PTE (ton/yr)	
<u>furnaces (Unit 1)</u>					
pm	4.3	1.619	30.49	0.30	
pm10	4.3		30.49	0.30	
<u>pouring, cooling (Unit 2)</u>					
pm	4.2	1.619	29.78	0.30	
pm10	2.06		14.61	0.15	
<u>sand handling (Unit 2)</u>					
pm	3.6	0.7465	11.77	0.12	
pm10	3.6		11.77	0.12	
<u>core making/baking (Unit 2)</u>					
pm	1.1	1.619	7.80	0.08	
pm10	1.1		7.80	0.08	
<u>shakeout (Unit 2)</u>					
pm	3.2	1.619	22.69	0.23	
pm10	2.24		15.88	0.16	
<u>shot blast (Unit 3)</u>					
pm	20.0	5.0	438.00	4.38	
pm10	20.0		438.00	4.38	
<u>misc. insignificant activities *</u>					
pm *	-	-	1.0	1.0	* estimated to be
pm10 *	-	-	1.0	1.0	1 TPY or less
Totals - PM			541.54	6.41	
PM10			519.56	6.19	